

# **Elbow Lake Timber Sale Environmental Assessment**

**Montana Department of Natural Resources and Conservation**

**Southwestern Land Office  
Clearwater Unit**



# ELBOW LAKE TIMBER SALE ENVIRONMENTAL ASSESSMENT

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## CHECKLIST ENVIRONMENTAL ASSESSMENT

<b>Project Name:</b>	Elbow Lake Timber Sale
<b>Proposed Implementation Date:</b>	January 2012- July, 2013
<b>Proponent:</b>	Montana DNRC, Clearwater Unit
<b>Location:</b>	S1/2 E1/2 Sec 20 T15N R14W
<b>County:</b>	Missoula

### I. TYPE AND PURPOSE OF ACTION

The Clearwater Unit is proposing to harvest an estimated 710 mbf of timber from approximately 97 acres. The proposed harvest area is located 2.5 miles north of Clearwater Junction (Attachment A and Attachment A-1). Ponderosa pine and Douglas-fir would be removed during harvest operations. Mountain pine beetle (*Dendroctonus ponderosae*) is currently infesting all diameter classes of ponderosa pine throughout the sale area. Trees that are and will likely be infested and ponderosa pine and Douglas-fir that contain high amounts of defect (crook, sweep, forked tops, etc.) would be removed. This would leave a residual stand of healthy well formed trees. Specific objectives of the project are to capture value of dead and dying trees, reduce future value loss, lower tree density and improve overall forest health within the project area.

The lands involved in this proposed project are held by the State of Montana in trust for the Pine Hills Schools. (Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X, Section 11). The Board of Land Commissioners and the DNRC are required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run for the beneficiary institutions (Section 77-1-202, MCA).

### II. PROJECT DEVELOPMENT

#### 1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

*Provide a brief chronology of the scoping and ongoing involvement for this project.*

The proposed timber sale was initially scoped in November of 2010. Adjacent landowners, School Trust Lands Lessees, members of the public and conservation groups were sent scoping notices. Notices were also posted at the Clearwater Unit main office. All scoping procedures were done in accordance with timber sale provisions located within MCA 77-5-201. A public meeting was held on site August 31, 2011 where 4 leases and 1 adjacent landowner attended.

DNRC specialists were consulted, including: Mike McGrath, Wildlife Biologist; Jeff Collins, Hydrologist and Patrick Rennie, Archeologist.

Recommendations from adjacent landowners, FWP and DNRC specialists have been incorporated into the action alternative.

#### 2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

None needed.

#### 3. ALTERNATIVES CONSIDERED:

**No Action Alternative A:** The proposed harvest would not occur at this time. Current land use activities would continue. No road improvements would be made on existing roads. Ponderosa pine mortality would continue across the area and the trust would recover no value from the dying trees. Douglas-fir and surviving ponderosa pine would continue to exist in a closed canopy situation. This would limit available resources to the surviving trees. The overstocked understory would continue to stagnate until a form of natural disturbance reduced the stocking levels. This would result in a continuous decline in the overall stand appearance as well as growth.

**Action Alternative B:** Under this alternative the DNRC would continue current uses, as well as harvest dead and dying ponderosa pine that are infested with mountain pine beetle. Douglas-fir and ponderosa pine with poor growth characteristics will also be harvested to reduce overall crown density. Leave trees would be left according to their overall vigor and form characteristics. Road improvements would be made to improve drainage and make existing roads safe for logging truck passage and access to Cabin Site leases.

### III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

#### 4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

*Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.*

No unstable slopes or especially unique geology features are present. Above the lake terrace there are areas of exposed bedrock on short steep slopes and common surface boulders that limit skid trail locations and would be tough on equipment tires. Two primary soils in the project area are Totelake gravelly and extremely stony loams on and adjacent to the glacial outwash and alluvial terrace above the Clearwater River and Perma gravelly loams on the forested upland sites. All of these soils are well to excessively well drained and tend to be droughty with a long season of use. No high erosion potential soils were identified and there are minimal effects of disturbance from historic use. The high stone and cobble content can lead to rough roads and it can be difficult to construct a evenly graded road surface. Grid rolling can improve the road surface.

Alt A No-Action No change from existing conditions

Alt B Action Several glacial pot holes are scattered throughout the operating area limiting ground based operations in these localized areas due to excessive slope conditions. Stream Management zones have been flagged around these areas and directional felling and winching up of material is to be used were slopes exceed 45%. The harvest of overstocked trees would improve tree spacing and should reduce completion for limited soil moisture and nutrients and improve growth of retained trees. Planned ground skidding operations are expected to have low risk of direct, in-direct and cumulative impacts based on implementing BMP's and mitigation measures. Mitigations include season of use limits, and retaining a portion of woody debris for nutrient cycling and moisture retention, while providing hazardous fuel reduction and prompt revegetation as needed to protect soil resources.

In accordance with ARM 36.11.410 and ARM 36.11.414 the majority of fine slash foliage and approximately 5 to 10 tons of coarse woody debris would be scattered on the forest floor in the harvest unit. This would increase the intensity and reduce the ability to control ground fires for approximately three years. Slash along roads and near cabin sites would be reduced consistent with the state fire hazard reduction law.

**For the complete version of the soils analysis refer to attachment C.**

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## 5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

*Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.*

The proposed salvage sale is located in E1/2 Sec 20 T15N R14W which includes a segment of the Clearwater River that is classified as B-1 in the Montana Water Quality Standards. This segment of the Clearwater River was identified as an impaired water body in Montana's 2008 305(b) Report, and given a unit id MT76F005\_10, but data has not been collected to make a beneficial use support determination.

Alt A No-Action No change from existing conditions

Alt B Action The proposed project has very low risk of direct, indirect or cumulative effects to water quality based on the following considerations. The salvage, thinning and improvement harvest is a small scale project of about 127 acres mainly on gentle to moderate slopes and well drained soils. No streams occur within the harvest units and no SMZ harvest or road construction is proposed within 100 ft. of the Clearwater River, Elbow Lake. The 100 ft. wide no treatment zone is wider than an SMZ or RMZ designation. All snags and stream recruitable trees for large woody debris would be retained in the riparian zone. No sites with high erosion risk were identified that would be affected. The project is not in a Municipal watershed. No SMZ's or fish bearing streams would be affected and no water quality impacts were observed from the proposed existing access roads. Skid trails would be stabilized by slashing and installing drainage where needed to prevent erosion. All disturbed roads and landings would be stabilized and grass seeded where needed to control erosion.

The harvest of mainly dead, dying and beetle infested pine and thinning of Douglas-fir is not expected to have a measurable influence on: water quality, the amount or timing of runoff (water yield), or stream stability from the proposed project area when compared to the effects anticipated under no action. In summary, the proposed harvest operations presents low risk of direct, indirect and cumulative impacts based on implementing BMP's, Forest Management Rules and mitigation measures.

**For the complete version of the hydrologists analysis refer to attachment C.**

## 6. AIR QUALITY:

*What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.*

The DNRC is a member of the Montana/Idaho Airshed Group which was formed to minimize or prevent smoke impacts while using fire to accomplish land management objectives and/or fuel hazard reduction (Montana/Idaho Airshed Group 2006). The Group determines the delineation of airsheds and impact zones throughout Idaho and Montana. Airsheds describe those geographical areas that have similar atmospheric conditions, while impact zones describe any area in Montana or Idaho that the Group deems smoke sensitive and/or having an existing air quality problem (Montana/Idaho Airshed Group 2006).

The project area is located within Montana Airshed 3B which encompasses portions of Missoula and Powell Counties. Currently, this Airshed does not contain any impact zones. The harvest area is located approximately 2.5 miles north of Clearwater junction and is bordered by Fish Wildlife and Parks on the east and south, non-industrial private landowners on the north and other School Trust Lands on the west.

### No Action

Under the No Action Alternative, no slash piles would be burned within the project area. Thus, there would be no effects to air quality within the local vicinity and throughout Airshed 3B from this project. Slash burning activities would continue to take place on adjacent non-industrial private ownerships.

## Action

Under the Action Alternative, slash piles consisting of tree limbs and tops and other vegetative debris would be created throughout the project area during harvesting. These slash piles would ultimately be burned after harvesting operations have been completed. Burning would introduce particulate matter into the local airshed, temporarily affecting local air quality. Over 70% of emissions emitted from prescribed burning is less than 2.5 microns (National Ambient Air Quality PM 2.5). High, short-term levels of PM 2.5 may be hazardous. Within the typical column of biomass burning, the chemical toxics are: Formaldehyde, Acrolein, Acetaldehyde, 1,4 Butadiene, and Polycyclic Organic Matter.

Burning within the project area would be short in duration and would be conducted when conditions favored good to excellent ventilation and smoke dispersion as determined by the Montana Department of Environmental Quality and the Montana/Idaho Airshed Group. Prior to burning a "Prescribed Fire Burn Plan" would be done for the area. The DNRC, as a member of the Montana/Idaho Airshed Group, would burn only on approved days. Thus, direct and indirect effects to air quality due to slash pile burning associated with the proposed action would be minimal.

Burning that may occur on adjacent properties in combination with the proposed action could potentially increase cumulative effects to the local airshed and the Class I Areas. Thus, cumulative effects to air quality due to slash pile burning associated with the proposed action would also be expected to be minimal.

Cumulative effects to air quality would not exceed the levels defined by State of Montana Cooperative Smoke Management Plan (1988) and managed by the Montana Airshed Group. Prescribed burning by other nearby airshed cooperators (for example BLM, USFS, etc.) would have potential to affect air quality. All cooperators currently operate under the same Airshed Group guidelines. The State, as a member, would burn only on approved days. This should decrease the likelihood of additive cumulative effects.

Harvesting and log hauling could create dust which may affect local air quality. Harvesting operations would be short in duration. Thus, direct, indirect, and cumulative effects to air quality due to harvesting and hauling associated with the proposed action would be minimal.

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## 7. VEGETATION COVER, QUANTITY AND QUALITY:

*What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.*

### EXISTING CONDITION

**Rare Plants** Howell's Gumweed, (*Grindelia howellii*), a rare plant indicated by the MNHP database is identified near this area. Howell's Gumweed habitat is found in vernal moist, lightly disturbed soil adjacent to ponds and marshes, as well as similar human-created habitats, such as roadsides and grazed pastures.

**Noxious Weeds** The noxious weeds Spotted Knapweed, cinquefoil, houndstongue, yellow flag iris and thistle species occur in this area. Yellow flag Iris occurs along the bank edge of Elbow Lake and in adjacent wetlands. Missoula County weed district has led a cooperative control effort on yellow flag iris, and DNRC contributes to this effort. Noxious weed control is the responsibility of cabin site leases on their lease sites.

**Standard Vegetative Community** Low elevation ponderosa pine stands dominate the project area (approximately 86% of the sale area has a ponderosa pine cover type). The only exceptions are draws and other heavily shaded areas such as north aspects. These areas (approximately 14% of the total sale area) have a mix of Douglas-fir and scattered ponderosa pine. Based on DNRC research of historic conditions Douglas-fir is over-represented by 14%. DNRC modeling suggests that 100% of the sale area be a ponderosa pine cover type. With fire suppression activities the Douglas-fir have been able to encroach in a historically ponderosa pine dominated forest. Douglas-fir regeneration can be found throughout the sale area where only ponderosa pine grew in the past.

At the larger scale, DNRC lands managed by the Clearwater Unit are approximately 85% forested, mostly in the ponderosa pine and western larch/Douglas-fir cover types. Compared to the desired future condition at this scale, Douglas-fir, subalpine fir, and mixed-conifer cover types are slightly over-represented while ponderosa pine and western larch/Douglas-fir are slightly under-represented. Overall, however, about 84% of these lands do have a cover type that matches the desired future condition. This area falls within climatic section 332B, which was historically about 79% forested. Within the climatic section, the historically dominant cover type was lodgepole pine, followed by Douglas-fir and ponderosa pine on lower slopes (Losensky, 1997).

All ponderosa pine stands within the project area currently have a high susceptibility and risk of mountain pine beetle damage, based on the age, stand density and existing mountain pine beetle presence. Mountain pine beetles in this area exist in scattered patches, each year these patches are increasing in size. This is affecting all diameter classes of ponderosa pine and is now impacting a large percentage of the overall ponderosa pine population in the area.

Stand structure characterizes stand development, disturbance and how a stand may continue to develop. Stand structure is classified as single-storied, two-storied, or multi-storied if there are one, two, or three main canopy layers. Single storied stands cover approximately 83% of the proposed harvest area. The remaining stands are two storied, or have two layers.

Douglas-fir and ponderosa pine within the project area vary greatly in overall quality and vigor. Patches of well formed vigorous trees can be found across the landscape. In addition to this there are many trees with high amounts of defect. Generally this occurs in the form of forked tops, multiple tops, crook and sweep. These trees lack the desirable qualities essential in producing quality trees into the future.

The DNRC has adopted old-growth definitions based on Green et al. (1992). Based on Stand Level Inventory age data and field reconnaissance no stands in the project area contain enough trees of sufficient size and age (trees in the project area range from 70-90 years of age) to meet the definition of old growth based on Green et al. (1992).

#### **No Action Alternative A:**

No large scale timber harvest would occur at this time. No road improvements would be made on existing roads. Ponderosa pine mortality would continue across the area and the Trust would recover no value from the dying trees. The increased fuel loading within these stands could become a concern as these trees die. With the existing rate of infestation and the likelihood that dead trees will be blown down, openings would occur within the stands regardless of harvest. Existing records show that pine beetle activity has always occurred in this area to some extent. Over time, natural conifer regeneration would probably establish in most areas. This would most likely be in the form of Douglas-fir and not the desired species for the area. The adjacent landowners would continue to treat their pine beetle outbreaks and be concerned about the fuel loading occurring on trust lands. Douglas-fir and surviving ponderosa pine would continue to exist in a closed canopy situation. This will limit available resources (water, nutrients) to the trees that survive the beetle outbreak. The overstocked understory would continue to stagnate until a form of natural disturbance reduced the stocking levels. This would result in a continuous decline in the overall stand appearance as well as growth.

Knapweed and other weeds would continue to spread through the area, but at lower levels based on herbicide treatments along roads and on adjacent FWP lands. Cooperative weed control efforts would continue. Lessees would be required to continue weed control with a focus on new invaders.

#### **Action Alternative B:**

Under this alternative the DNRC would continue current uses, as well as harvest dead and dying ponderosa pine that are infested with mountain pine beetle. Douglas-fir and ponderosa pine with poor growth characteristics would also be harvested to reduce overall crown density. Leave trees would be left according to their overall vigor and form characteristics. Because this area has been in a closed canopy situation for an extended period of time individual trees would be selected based on their ability to withstand a sudden change in their immediate environment. Windthrow is a valid concern when opening up a stand so an individual tree selection harvest prescription was selected. With this prescription, trees would be marked in a way that

simulates natural disturbances in the forest. In areas with smaller diameter trees present clumps would be left, conversely in areas with open grown larger diameter pine the spacing was widened. Leave trees would be selected based on their form; trees high in defect would be harvested. The only exceptions are wildlife trees. The objective of this harvest is to reduce the number of beetle infested trees as well as trees of poor quality without opening up the stand too much which would most certainly result in windthrow to the residual stand. This would allow the stand to become established and capitalize on the excess water and nutrients that would result from opening up the canopy.

In accordance with ARM 36.11.410 and ARM 36.11.414 the majority of fine slash foliage and approximately 5 to 15 tons of coarse woody debris would be scattered on the forest floor in the harvest unit. This would increase the intensity and reduce the ability to control ground fires for approximately three years. In areas with few leave trees the risk of a catastrophic crown fires would decrease.

The occurrence of natural regeneration, although not an objective of this treatment, would be monitored following harvest activities. Currently Douglas-fir fill in all natural openings in the area. However if insufficient amounts of regeneration occur planting would take place. Ponderosa pine would be planted in order to adhere to the objective of ponderosa pine as the species in the desired future stand.

To prevent introduction of new weeds, off-road equipment would be cleaned prior to entry into harvest areas. Newly disturbed roads and landings would be seeded to grass to reduce the spread of weeds. Noxious weed spread would not be greatly increased by this action or cause cumulative impacts to vegetation based on the mitigation measures. The landings would be prioritized for herbicide treatment following the sale to reduce existing weeds. The proposed treatment for this project is outside of 100 feet from Elbow Lake and any interior ponds where yellow flag Iris species habitat may occur.

If Howell's Gumweed, (*Grindelia howellii*), a rare plant indicated by the MNHP database is identified during the course of the operations, measures would be put in place to avoid or minimize impacts resulting from harvest activities. Howell's Gumweed habitat is found in vernal moist, lightly disturbed soil adjacent to ponds and marshes, as well as similar human-created habitats, such as roadsides and grazed pastures. The proposed treatment for this project is outside of a 100 feet from Elbow Lake and any interior ponds where this species habitat may occur.

The proposed action would be expected to result in low to moderate direct, indirect, and cumulative effects upon the vegetative community.

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## 8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

*Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.*

**Fisheries-**The Clearwater River flows through this DNRC project section. MTFWP MFISH waterbody report identifies the Clearwater River as supporting rare Bull trout, Westslope Cutthroat Trout, Brook Trout Northern Pike and other minor species. No road or harvest activities are planned within 100 feet or more of the river. The 100 ft. wide no treatment zone meets the SMZ or RMZ designation, and the riparian area *and there would be no effects to stream shading, water temperature, large woody debris, nutrients or channel stability* associated with the proposed action. No new stream crossings are proposed, and no sediment sources from existing roads were identified along the timber haul route. No streams supporting fish or stream segments with connectivity to down slope fisheries occur within the proposed harvest units or haul route and no fish bearing streams would be affected. There is very low risk of direct, in-direct or cumulative effects to fish habitat or aquatic life with the proposed action.

**Bald Eagle (*Haliaeetus leucocephalus*)-** The project area is located along Elbow Lake, and is within the home ranges of two separate bald eagle territories, but beyond the primary use areas of each territory. As such, large snags, perch trees, and emergent trees would be retained as per ARM 36.11.411, and there would be no timing restriction on operating season due to the distance from the known nest sites. However, should a new bald eagle nest be discovered, a DNRC wildlife biologist would be consulted to develop appropriate mitigation



measures. As a result, there is a low likelihood of direct, indirect, or cumulative effects to bald eagles from the proposed action.

**Flammulated Owl (*Otus flammeolus*)-** The proposed harvest unit is comprised of flammulated owl preferred habitat types, and is experiencing a mountain pine beetle . As such, the affected habitat under the No Action Alternative would undergo changes in condition. Under the No Action Alternative, the mountain pine beetle infestation would reduce canopy closure, create legacy snags, and likely spur forest regeneration through the openings in the overstory that they create. Depending on the extent of the overstory mortality, the effects for flammulated owls could be variable under this alternative. In stands with limited to moderate overstory mortality, flammulated owl habitat could be improved within 15 years, provided forest regeneration occurs in the new openings. Stands that might experience more extensive mortality may suffer reductions in habitat suitability for this species, or may serve more as foraging areas. Given the proximity of numerous cabin sites to the project area, the likelihood of loss of snags is high due to firewood harvesting. Thus, there may be low to moderate risk of direct, indirect, or cumulative effects for flammulated owls as a result of this alternative. Under the proposed action, the proposed harvest units would have fewer snags and snag recruits than under baseline conditions; however, at least one large diameter snag and one large diameter snag recruit would be retained per acre, as per ARM 36.11.411. Given the proposed harvest, the project area would likely have limited utility for flammulated owls post-harvest, until regeneration has re-established suitable forest structure (approximately 20 – 30 years). As a result, there would likely be low to moderate risk of direct, indirect, and cumulative effects to flammulated owls within the project area as a result of the proposed action.

**Pileated Woodpecker (*Dryocopus pileatus*)-** Both No Action and the proposed action would have similar effects to pileated woodpeckers due to the mountain pine beetle infestation within the project area's ponderosa pine. However, the No Action alternative might benefit this species because it would retain higher levels of snags and feeder logs. Nevertheless, under both alternatives the habitat suitability would likely suffer due to reduced canopy closure: either due to timber harvest or mountain pine beetle induced mortality. As a result, there would likely be a low potential for effects beyond what is expected under the No Action alternative.

**Lynx (*Felis lynx*)-** Based on current SLI database information, lynx habitat is not present on the parcel. Thus, there would likely be low potential for effects.

**Grizzly Bear (*Ursus arctos*)-** The project area is located approximately 9 miles south of the NCDE grizzly bear recovery area, has 29 cabin site leases, and has been experiencing a mountain pine beetle infestation in the Ponderosa pine. With the proximity of the project area to Elbow Lake and its associated wetlands, grizzly bears occasionally utilize portions of the project area. As such, reductions in visual screening cover may increase the species' vulnerability to poaching. Under the No Action Alternative, bug-killed pine is likely to stand for 10 to 15 years before falling to the ground. Until natural regeneration is able to grow to sufficient density and height, grizzly bear vulnerability is likely to be compromised due to increased sight distance. Similarly, under the proposed action, the proposed harvest would increase sight distance through removal of the mountain pine beetle affected pine. However, if the operating season occurs during the snow-free period, soil scarification by machinery may hasten forest regeneration, and reduce the amount of time visual screening would be reduced. As a result, there would likely be low potential for effects to grizzly bears from the proposed action that would exceed what would be expected under the No Action Alternative.

**Gray Wolf (*Canis lupus*)-** The project area is located on the western edge of the Blackfoot-Clearwater Game Range, and within 7 miles of two wolf packs: Belmont to the north, and Morrell Mtn to the west. Due to its location, during the winter, the parcel likely receives use by wolves that pursue big game on their winter range. However, the parcel also has numerous cabin site leases that receive use year round. As such, the proposed salvage of dead and dying salvage of pine on approximately 97 acres may increase wolf susceptibility to harvest during the proposed wolf hunting season, or poaching during the non-hunting season, due to increased sight distance. As such there may be the potential for low direct, indirect, or cumulative effects to wolves from the proposed action.

**Common Loon (*Gavia immer*)-** Loons have historically used Elbow Lake, with a successful nest occurring in 1996, and the species last observed on the lake in 2003. However, the lake has not been surveyed since 2004. Prior to the 2003 observation, the lake was surveyed annually, with no observations between 1999 and 2002.

Given the recent history on the lake, a 500-ft buffer from the lake would not be implemented unless an active nest is discovered. As a result, there would likely be a low potential for effects from the proposed action.

**Elk (*Cervus elaphus*), White-tailed Deer (*Odocoileus virginianus*) & Mule Deer (*Odocoileus hemimonus*)-**

Within the project area, Ponderosa pine is a component (30 – 100% by stand composition) of 16 stands covering approximately 284 acres. Due to tree size (DBH > 6 inches), all of the 284 acres of Ponderosa pine would be susceptible to the mountain pine beetle infestation. Thus, snow intercept cover on the majority of winter range within the affected parcel could be greatly reduced (reductions of 30 – 100%, by stand composition; Stand Level Inventory data) by beetle-induced tree mortality, causing commensurate reductions in elk winter range habitat suitability.

Under the proposed action, approximately 97 acres would be treated so that approximately 60 to 100 square feet of basal area per acre would be retained post-harvest. As such, snow intercept cover would be retained. Given the level of mountain pine beetle activity within the project area, it would be likely that the effects of the proposed harvest would have low potential for effects beyond those expected under the No Action Alternative for elk.

**For the complete version of the wildlife analysis refer to attachment B & attachment C for the fisheries analysis.**

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**9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:**

*Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.*

**Fisheries-**The Clearwater River flows through this DNRC project section. MTFWP MFISH waterbody report identifies the Clearwater River as supporting rare Bull trout, Westslope Cutthroat Trout, Brook Trout Northern Pike and other minor species.

No road or harvest activities are planned within 100 feet or more of the river, which is consistent with applicable conservation easements. The 100 ft. wide no treatment zone is wider than an SMZ or RMZ designation, and the riparian area and there would be no effects to stream shading, water temperature, large woody debris, nutrients or channel stability associated with the proposed action. No new stream crossings are proposed, and no sediment sources from existing roads were identified along the timber haul route. No streams supporting fish or stream segments with connectivity to down slope fisheries occur within the proposed harvest units or haul route and no fish bearing streams would be affected. There is very low risk of direct, in-direct or cumulative effects to fish habitat or aquatic life.

**Bald Eagle (*Haliaeetus leucocephalus*)-**The project area is located along Elbow Lake, and is within the home ranges of two separate bald eagle territories, but beyond the primary use areas of each territory. As such, large snags, perch trees, and emergent trees would be retained as per ARM 36.11.411, and there would be no timing restriction on operating season due to the distance from the known nest sites. However, should a new bald eagle nest be discovered, a DNRC wildlife biologist would be consulted to develop appropriate mitigation measures. As a result, there is a low likelihood of direct, indirect, or cumulative effects to bald eagles from the proposed action.

**Flammulated Owl (*Otus flammeolus*)-** The proposed harvest unit is comprised of flammulated owl preferred habitat types, and is experiencing a mountain pine beetle . As such, the affected habitat under the No Action Alternative would undergo changes in condition. Under the No Action Alternative, the mountain pine beetle infestation would reduce canopy closure, create legacy snags, and likely spur forest regeneration through the openings in the overstory that they create. Depending on the extent of the overstory mortality, the effects for flammulated owls could be variable under this alternative. In stands with limited to moderate overstory mortality, flammulated owl habitat could be improved within 15 years, provided forest regeneration occurs in the new openings. Stands that might experience more extensive mortality may suffer reductions in habitat suitability for this species, or may serve more as foraging areas. Given the proximity of numerous cabin sites to the project area, the likelihood of loss of snags is high due to firewood harvesting. Thus, there may be low to moderate risk of direct, indirect, or cumulative effects for flammulated owls as a result of this alternative.

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**Lynx (*Felis lynx*)-** Based on current SLI database information, lynx habitat is not present on the parcel. Thus, there would likely be low potential for effects.

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**Gray Wolf (*Canis lupus*)-** The project area is located on the western edge of the Blackfoot-Clearwater Game Range, and within 7 miles of two wolf packs: Belmont to the north, and Morrell Mtn to the west. Due to its location, during the winter, the parcel likely receives use by wolves that pursue big game on their winter range. However, the parcel also has numerous cabin site leases that receive use year round. As such, the proposed salvage of dead and dying salvage of pine on approximately 97 acres may increase wolf susceptibility to harvest during the proposed wolf hunting season, or poaching during the non-hunting season, due to increased sight distance. As such there may be the potential for low direct, indirect, or cumulative effects to wolves from the proposed action.

**Common Loon (*Gavia immer*)** Loons have historically used Elbow Lake, with a successful nest occurring in 1996, and the species last observed on the lake in 2003. However, the lake has not been surveyed since 2004. Prior to the 2003 observation, the lake was surveyed annually, with no observations between 1999 and 2002. Given the recent history on the lake, a 500-ft buffer from the lake would not be implemented unless an active nest is discovered. As a result, there would likely be a low potential for effects from the proposed action.

**For the complete version of the wildlife analysis refer to attachment B & attachment C for the fisheries analysis.**

## **10. HISTORICAL AND ARCHAEOLOGICAL SITES:**

*Identify and determine effects to historical, archaeological or paleontological resources.*

On May 2, 2011 the area of potential effect was inventoried to Class III standards by DRNC Archaeologist Patrick Rennie. No cultural or paleontological resources were identified. No additional archaeological investigative work is recommended. If any archaeological sites are found, they would be protected. No direct, indirect, or cumulative effects to cultural resources are expected as a result of the proposed action.

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## **11. AESTHETICS:**

*Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.*

Any change to the scenery in the area from these alternatives would be in addition to past timber harvests, road building, power line easements and grazing within the project area. This analysis includes all past and present effects.

### **No Action**

Under the no action alternative ponderosa pine infested with mountain pine beetle would die. Initially this would result in scattered patches of red-needled trees. In the following years the trees would lose their needles, some would fall to the forest floor layering the material in a jack-straw fashion. Without harvest the residual stand would be ponderosa pine and Douglas-fir with forked tops, crook, sweep and other defects. These trees would exist in a predominantly closed canopy situation with the only openings being littered with dead trees. The adjacent landowners have already voiced their disdain for this type of visual appearance. Because this is a land locked section and given the way the topography exists the general public cannot see this section from any vantage points.

### **Action**

Post harvest would leave the area with a more park-like appearance. Dead and dying beetle infested ponderosa pine would be removed as well as small ponderosa pine that are susceptible and of poor quality.

Throughout the proposed sale area slash from the harvest would be noticeable yet temporary. Generally slash disappears from the site within five years, and is often covered by other vegetation within three years. The tops and limbs from one tree out of every four would be left in the woods to serve as a source of nutrients to the remaining stand. This slash would be lopped to a height not exceeding 18" from the ground. All other trees would be skid whole to landings leaving only scattered limbs on the forest floor. The leave tree marking in the area would be done in such a way to emulate natural forest growth. Trees would be left based on quality characteristics, not spacing requirements. This would result in scattered clumps blended with openly spaced trees of all diameter classes. Snag requirements would be met and most often exceeded on a per acre basis so scattered "character" trees can also be observed throughout the stand. Following treatment the stand would exhibit an almost park like appearance in most areas with a quality overstory being present.

Harvest systems and activities would be ground-based and would be completed late summer-winter. The skidding equipment and log trucks may cause temporary dust clouds that would quickly disperse and would only occur during harvest. The proposed harvest would most likely occur during the general "work week".

Direct, indirect, and cumulative effects to aesthetics due to harvesting and hauling associated with the proposed action would be an improvement from the current conditions.

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## **12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:**

*Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.*

No impacts are likely to occur under either alternative.

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## **13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:**

*List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.*

***The following timber permits have been completed in this area:***

Pitch Tube Baby: Section 16 T14N R14W. Located South of the project area across the Blackfoot river.  
Stabilization 1: Sections 2 & 10 T14N R14W, Located to the south and southeast.  
Stabilization 2: Section 10 T14N R14W, located to the southeast.

#### IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

#### 14. HUMAN HEALTH AND SAFETY:

*Identify any health and safety risks posed by the project.*

This project would mitigate current concerns of fire danger and elevated populations of mountain pine beetles from adjacent landowners. Concerns have been raised by adjacent landowners that this stand is "falling apart" and mountain pine beetles are thriving in the section and then coming onto the adjacent landowners section. With that concern is also a concern of increased dead and dying trees which results in a higher fuel loading. This could potentially increase fire activity if one were to start in the area.

Log truck traffic would increase slightly on area roads for the duration of the sales associated with the proposed action. Signs at appropriate locations on county roads and access roads would be used to warn motorists and local residents. Limiting harvesting operations to winter season would reduce potential impacts to users of cabins on Elbow Lake.

#### 15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

*Identify how the project would add to or alter these activities.*

The proposed action would lead to a small, temporary increase in industrial activity during implementation. The proposed action would include timber harvesting and log hauling.

Post harvest the forest floor would receive more sunlight which could potentially increase forage for game animals within the harvest area.

#### 16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

*Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.*

A few short time jobs would be created for the duration of the proposed action.

#### 17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

*Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.*

The proposed action has only indirect, limited implications for tax collections.

#### 18. DEMAND FOR GOVERNMENT SERVICES:

*Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services*

Aside from contract administration, the impact on government services should be minimal due to the temporary nature of the proposed action.

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**19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:**

*List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.*

The DNRC operates under the State Forest Land Management Plan (SFLMP, DNRC 1996) and Administrative Rules for Forest Management (ARM 36.11.401 through 450, DNRC 2003). The SFLMP established the agency's philosophy for management of forested trust lands. The Administrative Rules provide specific guidance for implementing forest management projects

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**20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:**

*Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.*

The section is surrounded by private property and Fish Wildlife and Park ownership access is shared with private ownership and cabin site lessees. People recreating on Elbow Lake would have access into the parcel but no activities are planned for 100 feet from the high water mark. Therefore this project would have little effect on recreational and wilderness activities.

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**21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:**

*Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.*

**NONE:** The project would have no direct implications for density and distribution of population and housing

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**22. SOCIAL STRUCTURES AND MORES:**

*Identify potential disruption of native or traditional lifestyles or communities.*

No measurable impacts related to social structures and mores would be expected.

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**23. CULTURAL UNIQUENESS AND DIVERSITY:**

*How would the action affect any unique quality of the area?*

No measurable impacts related to cultural uniqueness and diversity would be expected under either alternative.

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**24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:**

*Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.*

**No Action Alternative A:** No road improvements would be made on existing roads. Ponderosa pine mortality would continue across the area and the trust would recover no value from the dying trees.

**Action Alternative B:** the proposed project would return approximately \$50,000 to the Pine Hills Schools Trust. This estimate uses an estimated stumpage rate of \$12.00 per ton (estimated stumpage based on recent timber sales with similar characteristics). Additionally, the proposed action would contribute approximately \$22,250 to the forest improvement fund. This rate is based on a \$5.32/ ton forest improvement fee.

<b>EA Checklist Prepared By:</b>	<b>Name:</b> David M. Poukish	<b>Date:</b> November 16, 2011
	<b>Title:</b> Clearwater Unit Management	

## V. FINDING

### 25. ALTERNATIVE SELECTED:

I select the proposed action alternative as described in this Environmental Assessment.

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### 26. SIGNIFICANCE OF POTENTIAL IMPACTS:

I find that the impacts of the proposed action alternative as described in this Environmental Assessment are not significant.

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### 27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

☐

EIS

☐

More Detailed EA

☒

No Further Analysis

<b>EA Checklist Approved By:</b>	<b>Name: Robert Storer</b> <b>Title: Lands Program Manager, Southwest Land Office, Montana DNRC</b>
<b>Signature:</b>	<b>Date:</b> November 16, 2011

# Attachment A

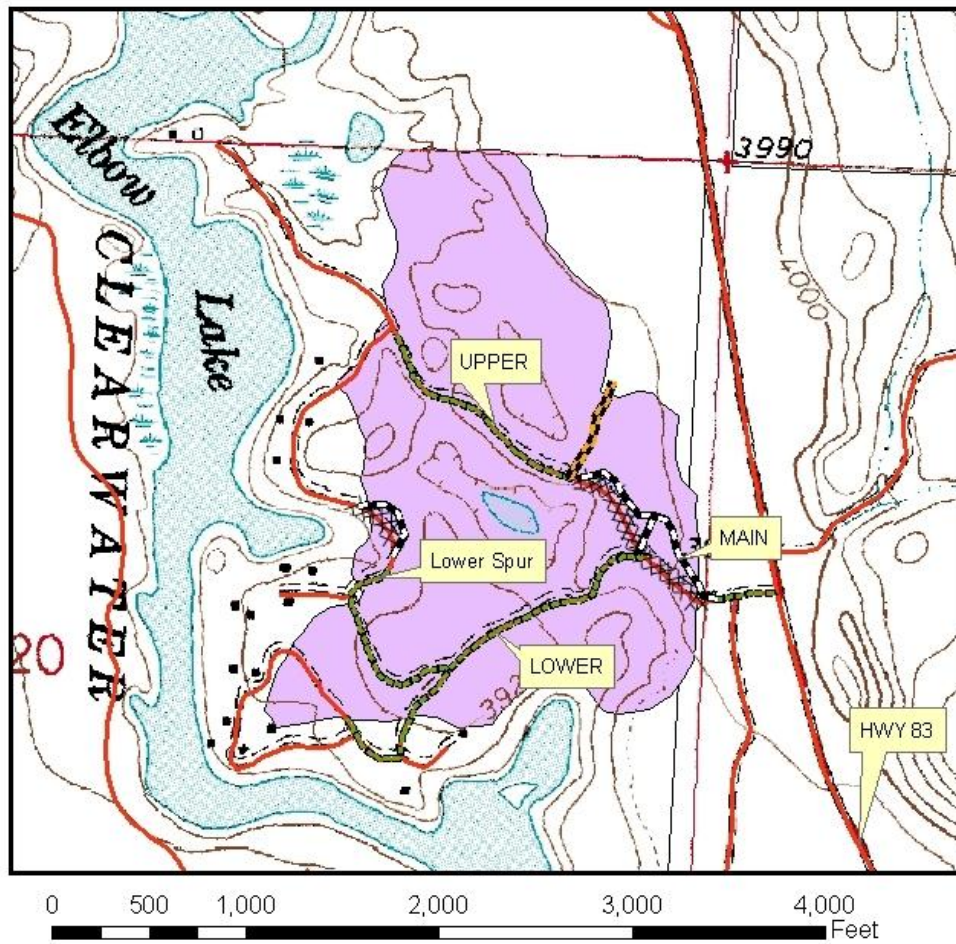
## Maps



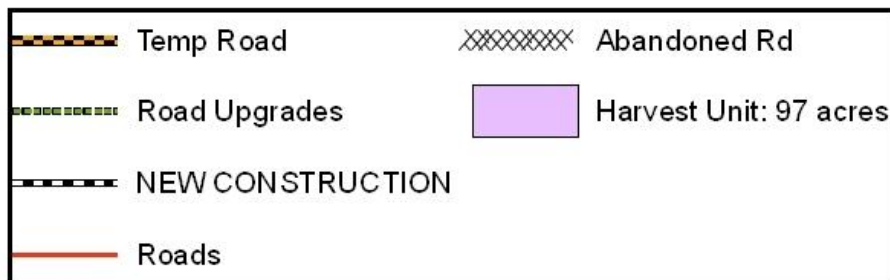


Elbow Lake  
Sec 20 T15N R14W  
DNRC-CLEARWATER UNIT

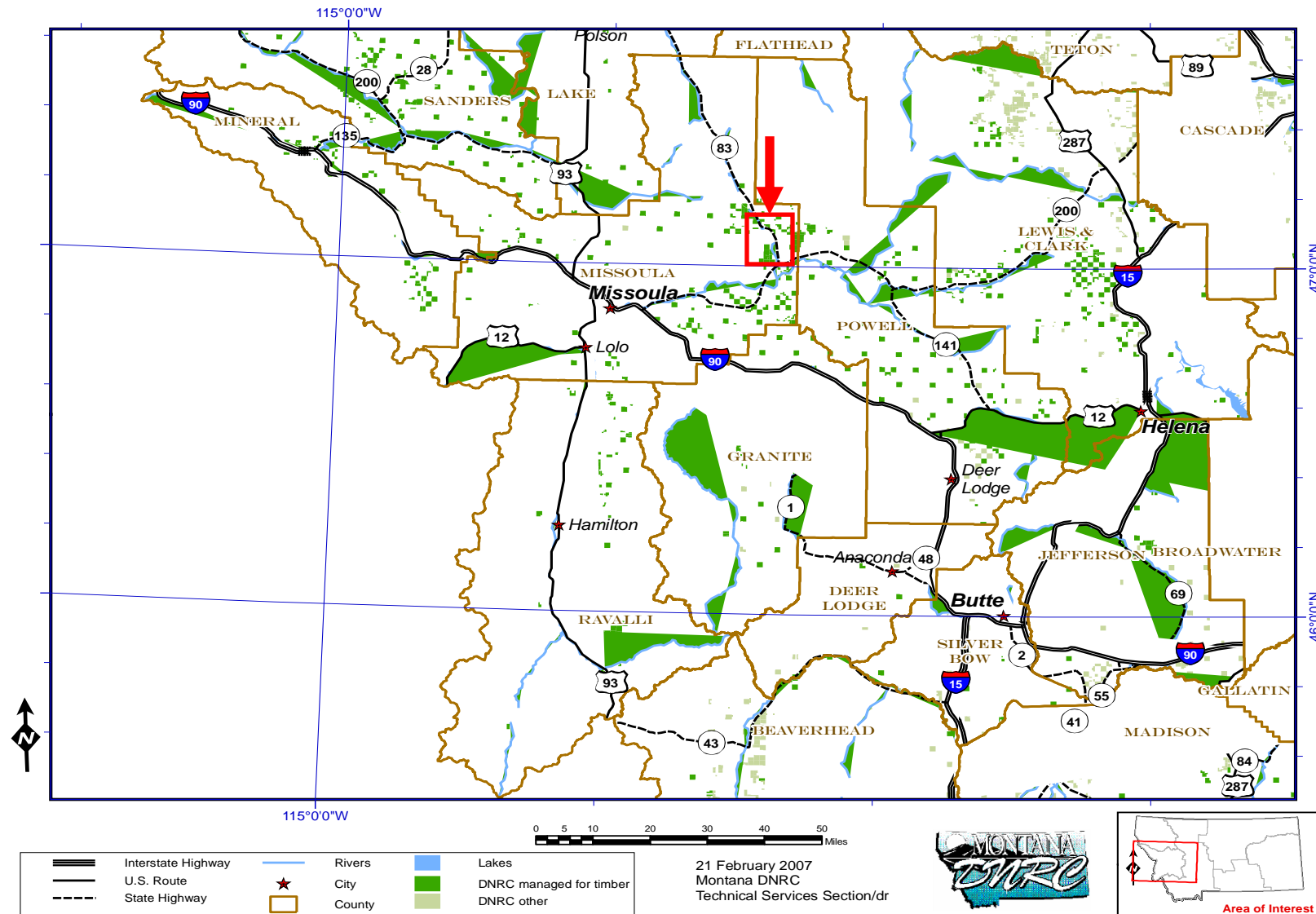
Attachment A-1



Unit 1 : Leave all trees with a horizontal yellow stripe painted around the bole of the tree and/or a yellow "W" painted on the tree. Leave all boundary trees unless other wise noted by the forest officer.  
SMZ: There are no trees marked to cut in the SMZ. The SMZ is identified by Orange SMZ ribbon and orange 3 dots.



# Elbow Lake Vicinity Map



Attachment B

**Wildlife Analysis**

# CHECKLIST ENVIRONMENTAL ASSESSMENT

For  
Endangered, Threatened and Sensitive Species

<b>Threatened and Endangered Species</b>	<p>[Y/N] Potential Impacts and Mitigation Measures</p> <p>N = Not Present or No Impact is Likely to Occur</p> <p>Y = Impacts May Occur</p> <p>L = Low Potential for Effects</p>
Lynx ( <i>Felis lynx</i> ), Federally threatened.	[N] Based on current SLI database information, lynx habitat is not present on the parcel. Thus, there would likely be low potential for effects.
Grizzly Bear ( <i>Ursus arctos</i> ), Federally threatened.	<p>[L] The project area is located approximately 9 miles south of the NCDE grizzly bear recovery area, has 29 cabin site leases, and has been experiencing a mountain pine beetle infestation in the Ponderosa pine. With the proximity of the project area to Elbow Lake and its associated wetlands, grizzly bears occasionally utilize portions of the project area. As such, reductions in visual screening cover may increase the species' vulnerability to poaching. Under the No Action Alternative, bug-killed pine is likely to stand for 10 to 15 years before falling to the ground. Until natural regeneration is able to grow to sufficient density and height, grizzly bear vulnerability is likely to be compromised due to increased sight distance. Similarly, under the proposed action, the proposed harvest would increase sight distance through removal of the mountain pine beetle affected pine. However, if the operating season occurs during the snow-free period, soil scarification by machinery may hasten forest regeneration, and reduce the amount of time visual screening would be reduced. As a result, there would likely be low potential for effects to grizzly bears from the proposed action that would exceed what would be expected under the No Action Alternative.</p>
<b>DNRC Sensitive Species</b>	<p>[Y/N] Potential Impacts and Mitigation Measures</p> <p>N = Not Present or No Impact is Likely to Occur</p> <p>Y = Impacts May Occur</p> <p>L = Low Potential for Effects</p>
Gray Wolf ( <i>Canis lupus</i> )	<p>[L] The project area is located on the western edge of the Blackfoot-Clearwater Game Range, and within 7 miles of two wolf packs: Belmont to the north, and Morrell Mtn to the west. Due to its location, during the winter, the parcel likely receives use by wolves that pursue big game on their winter range. However, the parcel also has numerous cabin site leases that receive use year round. As such, the proposed salvage of dead and dying salvage of pine on approximately 97 acres may increase wolf susceptibility to harvest during the proposed wolf hunting season, or poaching during the non-hunting season, due to increased sight distance. As such there may be the potential for low direct, indirect, or cumulative effects to wolves from the proposed action.</p>

Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	[L] Portions of the proposed harvest units are within the home ranges of two separate bald eagle territories, but beyond the primary use areas of each territory. As such, large snags, perch trees, and emergent trees would be retained as per ARM 36.11.411, and there would be no timing restriction on operating season due to the distance from the known nest sites. However, should a new bald eagle nest be discovered, a DNRC wildlife biologist would be consulted to develop appropriate mitigation measures. As a result, there is a low likelihood of direct, indirect, or cumulative effects to bald eagles from the proposed action.
Flammulated Owl ( <i>Otus flammeolus</i> )	[L] The proposed harvest unit is comprised of flammulated owl preferred habitat types, and is experiencing a mountain pine beetle . As such, the affected habitat under the No Action Alternative would undergo changes in condition. Under the No Action Alternative, the mountain pine beetle infestation would reduce canopy closure, create legacy snags, and likely spur forest regeneration through the openings in the overstory that they create. Depending on the extent of the overstory mortality, the effects for flammulated owls could be variable under this alternative. In stands with limited to moderate overstory mortality, flammulated owl habitat could be improved within 15 years, provided forest regeneration occurs in the new openings. Stands that might experience more extensive mortality may suffer reductions in habitat suitability for this species, or may serve more as foraging areas. Given the proximity of numerous cabin sites to the project area, the likelihood of loss of snags is high due to firewood harvesting. Thus, there may be low to moderate risk of direct, indirect, or cumulative effects for flammulated owls as a result of this alternative. Under the proposed action, the proposed harvest units would have fewer snags and snag recruits than under baseline conditions; however, at least one large diameter snag and one large diameter snag recruit would be retained per acre, as per ARM 36.11.411. Given the proposed harvest, the project area would likely have limited utility for flammulated owls post-harvest, until regeneration has re-established suitable forest structure (approximately 20 – 30 years). As a result, there would likely be low to moderate risk of direct, indirect, and cumulative effects to flammulated owls within the project area as a result of the proposed action.
Peregrine Falcon ( <i>Falco peregrinus</i> )	[N] Not present.
Black-backed Woodpecker ( <i>Picoides arcticus</i> )	[N] Not present.

Pileated Woodpecker ( <i>Dryocopus pileatus</i> )	[L] Both No Action and the proposed action would have similar effects to pileated woodpeckers due to the mountain pine beetle infestation within the project area's ponderosa pine. However, the No Action alternative might benefit this species because it would retain higher levels of snags and feeder logs. Nevertheless, under both alternatives the habitat suitability would likely suffer due to reduced canopy closure: either due to timber harvest or mountain pine beetle induced mortality. As a result, there would likely be a low potential for effects beyond what is expected under the No Action alternative.
Fisher ( <i>Martes pennanti</i> )	[N] Not present.
Coeur d'Alene Salamander ( <i>Plethodon idahoensis</i> )	[N] Not present.
Northern Bog Lemming ( <i>Synaptomys borealis</i> )	[N] Not present.
<b>Other Sensitive Species Considered</b>	[Y/N] Potential Impacts and Mitigation Measures N = Not Present or No Impact is Likely to Occur Y = Impacts May Occur L = Low Potential for Effects
Common Loon ( <i>Gavia immer</i> )	[L] Loons have historically used Elbow Lake, with a successful nest occurring in 1996, and the species last observed on the lake in 2003. However, the lake has not been surveyed since 2004. Prior to the 2003 observation, the lake was surveyed annually, with no observations between 1999 and 2002. Given the recent history on the lake, a 500-ft buffer from the lake would not be implemented unless an active nest is discovered. As a result, there would likely be a low potential for effects from the proposed action.
Harlequin Duck ( <i>Histrionicus histrionicus</i> )	[N] Not present.
Columbian Sharp-tailed Grouse ( <i>Tympanuchus phasianellus columbianus</i> )	[N] Not present.
Mountain Plover ( <i>Charadrius montanus</i> )	[N] Not present.
Townsend's Big-eared Bat ( <i>Corynorhinus townsendii</i> )	[N] Not present.

Big Game Species	[Y/N] Potential Impacts and Mitigation Measures N = Not Present or No Impact is Likely to Occur Y = Impacts May Occur L = Low Potential for Effects
Elk ( <i>Cervus elaphus</i> )	[L] Within the project area, Ponderosa pine is a component (30 – 100% by stand composition) of 16 stands covering approximately 284 acres. Due to tree size (DBH > 6 inches), all of the 284 acres of Ponderosa pine would be susceptible to the mountain pine beetle infestation. Thus, snow intercept cover on the majority of winter range within the affected parcel could be greatly reduced (reductions of 30 – 100%, by stand composition; Stand Level Inventory data) by beetle-induced tree mortality, causing commensurate reductions in elk winter range habitat suitability. Under the proposed action, approximately 97 acres would be treated so that approximately 60 to 100 square feet of basal area per acre would be retained post-harvest. As such, snow intercept cover would be retained. Given the level of mountain pine beetle activity within the project area, it would be likely that the effects of the proposed harvest would have low potential for effects beyond those expected under the No Action Alternative for elk.
White-tailed Deer ( <i>Odocoileus virginianus</i> )	[L] Effects of the proposed action on white-tailed deer are expected to be similar to those of the proposed action on elk.
Mule Deer ( <i>Odocoileus hemionus</i> )	[L] Effects of the proposed action on white-tailed deer are expected to be similar to those of the proposed action on elk.

# Attachment C

## Soils & Hydrology

### Analysis



November 10, 2011

To: Dave Poukish, Clearwater Unit  
From: Jeff Collins  
Subject: Elbow Lake Timber Sale S1/2 Sec 20, T15N, R14W  
Water, Soils, Fish, Resources and Noxious Weed Report

The purpose of this action is to remove approximately 710 MBF of trees from approximately 97 acres. Ponderosa pines have been infected by the Mountain Pine Beetle and portions of the Douglas fir have high amounts of defect and damage from spruce bud worm. In addition pre-commercial thinning and would also take place to improve stand health, reduce fire hazard in the cabin/urban interface. With the low risk of effects this report is in the checklist EA format.

#### **4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:**

*Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.*

No unstable slopes or especially unique geology features are present. Above the lake terrace there are areas of exposed bedrock on short steep slopes and common surface boulders that limit skid trail locations and would be tough on equipment tires. Two primary soils in the project area are Totelake gravelly and extremely stony loams on and adjacent to the glacial outwash and alluvial terrace above the Clearwater River and Perma gravelly loams on the forested upland sites. All of these soils are well to excessively well drained and tend to be droughty with a long season of use. No high erosion potential soils were identified and there are minimal effects of disturbance from historic use. The high stone and cobble content can lead to rough roads and it can be difficult to construct a evenly graded road surface. Grid rolling can improve the road surface.

Alt A No-Action No change from existing conditions

Alt B Action Several glacial pot holes are scattered throughout the operating area limiting ground base operations in these localized areas due to excessive slope conditions. Stream Management zones have been flagged around these areas and directional felling and winching up of material is to be used were slopes exceed 45%. The harvest of overstocked trees would improve tree spacing and should reduce completion for limited soil moisture and nutrients and improve growth of retained trees. Planned ground skidding operations are expected to have low risk of direct, in-direct and cumulative impacts based on implementing BMP's and mitigation measures. Mitigations include season of use limits, and retaining a portion of woody debris for nutrient cycling and moisture retention, while providing hazardous fuel reduction and prompt revegetation as needed to protect soil resources.

In accordance with ARM 36.11.410 and ARM 36.11.414 the majority of fine slash foliage and approximately 5 to 10 tons of coarse woody debris would be scattered on the forest floor in the harvest unit. This would increase the intensity and reduce the ability to control ground fires for approximately three years. Slash along roads and near cabin sites would be reduced consistent with fire hazard rules.

#### **5. WATER QUALITY, QUANTITY AND DISTRIBUTION:**

*Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.*

The proposed salvage sale is located in E1/2 Sec 20 T15N R14W which includes a segment of the Clearwater River that is classified as B-1 in the Montana Water Quality Standards. This segment of the Clearwater River was identified as an impaired water body in Montana's 2008 305(b) Report, and given a unit id MT76F005\_10, but data has not been collected to make a beneficial use support determination.

Alt A No-Action No change from existing conditions

Alt B Action The proposed project has very low risk of direct, indirect or cumulative effects to water quality based on the following considerations. The salvage, thinning and improvement harvest is small scale project of about 97 acres mainly on gentle to moderate slopes and well drained soils. No streams occur within the harvest units and no SMZ harvest or road construction is proposed within 100 ft. of the Clearwater River, Elbow Lake. The 100 ft. wide no treatment zone is wider than an SMZ or RMZ designation. All snags and stream recruitable trees for large woody debris would be retained in the riparian zone. No sites with high erosion risk were identified that

would be affected. The project is not in a Municipal watershed. No SMZ's or fish bearing streams would be affected and no water quality impacts were observed from the proposed existing access roads. Skid trails would be stabilized by slashing and installing drainage where needed to prevent erosion. All disturbed roads and landings would be stabilized and grass seeded where needed to control erosion.

The harvest of mainly dead, dying and beetle infested pine and thinning of Douglas-fir is not expected to have a measurable influence on: water quality, the amount or timing of runoff (water yield), or stream stability from the proposed project area when compared to the effects anticipated under no action. In summary, the proposed harvest operations presents low risk of direct, indirect and cumulative impacts based on implementing BMP's, Forest Management Rules and mitigation measures.

#### **7. VEGETATION COVER, QUANTITY AND QUALITY:**

*What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.*

**Noxious Weeds** The noxious weeds Spotted Knapweed, cinquefoil, houndstongue, yellow flag iris and thistle species occur in this area. Yellow flag Iris occurs along the bank edge of Elbow Lake and in adjacent wetlands. Missoula County weed district has lead a cooperative control effort on yellow flag iris, and DNRC contributes to the control. Noxious weed control is the responsibility of grazing and cabin site leases.

#### **No Action Alternative A:**

Knapweed and other weeds continue to spread through the area, but at lower level based on herbicide treatments along roads and on adjacent FWP lands. Cooperative weed control efforts would continue. Lessees would be required to continue weed control with a focus on new invaders.

#### **Action Alternative B:**

To prevent introduction of new weeds, off-road equipment would be cleaned prior to entry into harvest areas. Newly disturbed roads and landings would be seeded to grass to reduce the spread of weeds. Noxious weed spread would not be greatly increased by this action or cause cumulative impacts to vegetation based on the mitigation measures. The landings would be prioritized for herbicide treatment following the sale to reduce existing weeds. The proposed treatment for this project is outside of 100 feet from Elbow Lake and any interior ponds where yellow flag Iris species habitat may occur.

The proposed action would be expected to result in low to moderate direct, indirect, and cumulative effects upon the vegetative community.

#### **8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:**

*Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.*

**Fisheries**-The Clearwater River flows through this DNRC project section. MTFWP MFISH waterbody report identifies the Clearwater River as supporting rare Bull trout, Westslope Cutthroat Trout, Brook Trout Northern Pike and other minor species. No road or harvest activities are planned within 100 feet or more of the river. The 100 ft. wide no treatment zone meets the SMZ or RMZ designation, and the riparian area *and there would be no effects to stream shading, water temperature, large woody debris, nutrients or channel stability* associated with the proposed action. No new stream crossings are proposed, and no sediment sources from existing roads were identified along the timber haul route. No streams supporting fish or stream segments with connectivity to down slope fisheries occur within the proposed harvest units or haul route and no fish bearing streams would be affected. There is very low risk of direct, in-direct or cumulative effects to fish habitat or aquatic life with the proposed action.

#### **9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:**

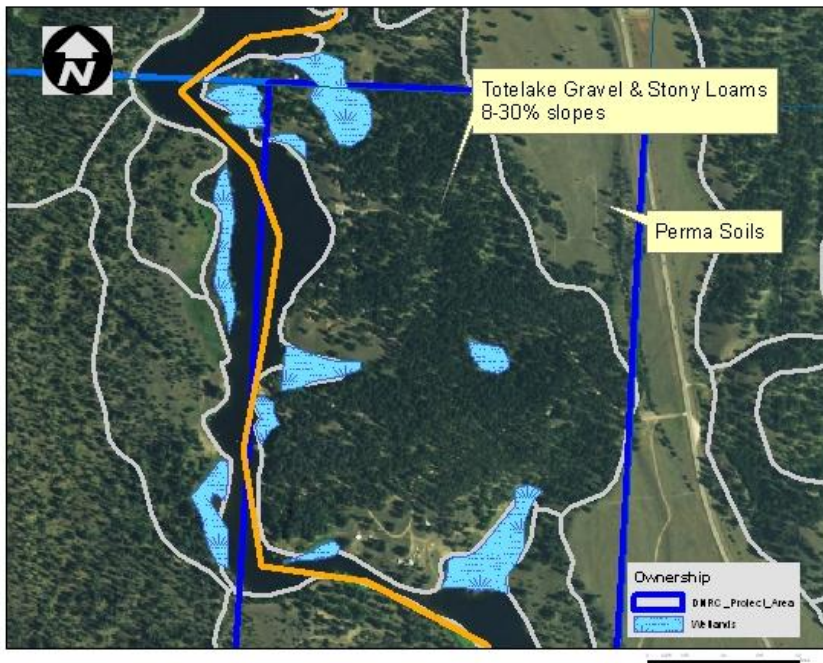
*Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.*

**Fisheries**-The Blackfoot River flows through this DNRC project section. MTFWP MFISH waterbody report identifies the Blackfoot River as supporting rare Bull trout, Westslope Cutthroat Trout, Brook Trout Northern Pike and other minor species.

**Alternative A** – Fisheries No action and no change from existing conditions would occur.

**Alternative B** – Fisheries No road or harvest activities are planned within 100 feet or more of the river, which is consistent with applicable conservation easements. The 100 ft. wide no treatment zone is wider than an SMZ or RMZ designation, and the riparian area and there would be no effects to stream shading, water temperature, large woody debris, nutrients or channel stability associated with the proposed action. No new stream crossings are proposed, and no sediment sources from existing roads were identified along the timber haul route. No streams supporting fish or stream segments with connectivity to down slope fisheries occur within the proposed harvest units or haul route and no fish bearing streams would be affected. There is very low risk of direct, indirect or cumulative effects to fish habitat or aquatic life with

Elbow Lake Project Area Soil Map, Section 20, T15N, R14W





MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

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*Persons with disabilities who need an alternative, accessible format of this document should contact the DNRC at the above address or phone number.*

